REMARKS

I. Introduction

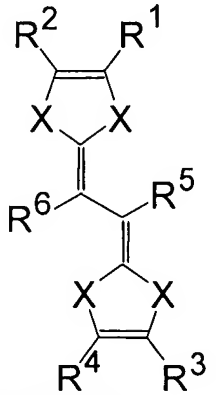
Applicants note with appreciation the Examiner's finding that the traversal of species elections of claims 28, 30, 32 and 34 with respect to R1 to R6 and aliphatic carbons and specific carbon atoms, and the election of claim 44 with respect to the species for a specific negative active material to be lithium-containing composite titanium oxide was persuasive.

For the reasons set forth below, Applicants respectfully submit that all pending claims are in condition for allowance.

II. The Rejection Of Claims 22, 25, 28, 32, 35, 38, 41, 44, 50 and 53

Claims 22, 25, 28, 32, 35, 38, 41, 44, 50 and 53 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Zhang et al. (USP No. 6,110,619) in view of Carlier et al. (Publication Electrochimica Acta). Applicants respectfully traverse this rejection for at least the following reasons.

With regard to the present invention, claim 32 recites a secondary battery, comprising a positive electrode, a negative electrode and an electrolyte, wherein at least one of said positive electrode and said negative electrode includes an electrode active material comprising a compound having a structure represented by the general formula (1a):



where X is a sulfur atom or an oxygen atom; each of R^1 to R^4 is independently a linear or cyclic aliphatic group, a hydrogen atom, a hydroxyl group, a cyano group, an amino group, a nitro group or a nitroso group; each of R^5 and R^6 is independently a linear or cyclic aliphatic group, or a hydrogen atom; said aliphatic group includes at least one selected from the group consisting of an oxygen atom, a nitrogen atom, a sulfur atom, a silicon atom, a phosphorus atom, a boron atom, and a halogen atom.

It was admitted in the Office Action that Zhang fails to teach the specific compound of formula 1(a). However, it was alleged that Zhang teaches that the positive electrode active material has an organo-sulfur structure. Thus, it is implied that Zhang suggests a compound of formula 1(a). However, the passage of Zhang cited in the Office Action (col. 2, line 52) states that "herein, the term 'organo-sulfur materials' means **a material containing organic sulfur compounds with only single or double carbon-sulfur or sulfur-sulfur bonds**". As the compound of general formula 1(a) contains carbon-carbon bonds, then compound 1(a) does not fall into the category of organo-sulfur compounds *as defined in the Zhang reference*. In fact, nowhere in Zhang is there a mention of the use of a compound of formula 1(a) as a positive electrode active material.

In addition, Carlier appears silent with respect to the use of a compound of formula 1(a) in secondary batteries. As Zhang fails to disclose that compounds of the general structure as described in Carlier may be used in secondary batteries, and as Carlier does not disclose the use of the compound of formula 1(a) in secondary batteries, there does not appear to be the requisite teaching or suggestion necessary in either reference to combine the two references. The Examiner is merely using improper hindsight, gained from the information contained in the present application, to combine the two references.

As proof that the compound of formula 1(a) can be used as a positive electrode active material, the Examiner alleges that Carlier discloses that the compound of formula 1(a) induces fast electron transfer and can control relative stabilities of different redox species. However, this information is in reference to the *induction of structural conformation changes and the dimerization of the molecule*, not with the use of the compound in a secondary battery. As such, it would not be obvious to use a compound disclosed in the Carlier reference as an active material in the positive electrode in Zhang.

Applicants refer the Examiner to § 2141 of the MPEP entitled, "*Basic Considerations Which Apply to Obviousness Rejections*", part (B) which states, "The references must be considered as a whole and **MUST** suggest the desirability and thus the obviousness of making the combination." Moreover, the Supreme Court recently upheld that a patent composed of several elements is not proved obvious without identifying a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements (*KSR International Co. v. Teleflex Inc.*, 550 U.S. 14-15 (2007)).

Thus, without any suggestion to combine the above cited references, which are in non-analogous fields and concern unrelated problems, Applicants respectfully submit that the requisite motivation to combine Zhang and Carlier to substantiate a rejection under 35 U.S.C. § 103 has not been demonstrated. As such, Applicants submit that the proposed combination is improper.

Accordingly, it is respectfully requested that the § 103 rejection of claim 32, and any pending claims dependent thereon be withdrawn.

III. All Dependent Claims Are Allowable Because The Independent Claim From Which They Depend Is Allowable

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claim 32 is patentable for the reasons set forth above, it is respectfully submitted that all pending dependent claims are also in condition for allowance.

IV. Conclusion

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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